# PROGRAM CHARTER
# FOR
# SATELLITE SERVICES

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## 1. EXECUTIVE SUMMARY

Within the National Oceanic and Atmospheric Administration (NOAA), the Satellite Services Program acts as a bridge between NOAA's Geostationary and Polar Acquisition Programs and NOAA's Mission Goal Programs by integrating NOAA's satellite command & control, product processing & distribution, and applied research activities. The contributions of the Satellite Services Program allow for the end-to-end utilization of NOAA's satellite observation and research capabilities. As a Critical Support program, the Satellite Services Program exists to support user-generated requirements for satellite-based products and services developed by all four NOAA mission goals. Operating sixteen environmental satellites, the program collects, navigates, calibrates and distributes the operational and pre-operational data necessary to accurately monitor and observe the land, sea, atmosphere, and space around us. Satellite Services is comprised of various components from NOAA's National Environmental Satellite, Data, and Information Service (NESDIS) that are held organizationally within the Office of Satellite Data Processing and Distribution (OSDPD), the Office of Satellite Operations (OSO), and Office of Research and Applications (ORA), and the Office of Systems Development (OSD.) In addition, Satellites Services provides IT infrastructure and facilities infrastructure required to support these operations and NOAA responsibilities for Homeland Security. The core program activities for all three line offices occur in Suitland and Camp Springs, Maryland. In addition, the Office of Satellite Operations has facilities in Fairbanks, Alaska and Wallops, Virginia. The Office of Research and Applications has strategically located facilities in various universities to foster cooperation with research and academic partners. These facilities are located in Fort Collins, Colorado, Madison, Wisconsin and College Park, Maryland. Additional program information can be found at the following websites: www.oso.noaa.gov, www.orbit.nesdis.noaa.gov/star/index.html, and www.osdpd.noaa.gov. Additional information is located on the NESDIS website at www.NESDIS.noaa.gov.

## 1. PROGRAM REQUIREMENTS

### *A.* Requirement Drivers:

**Legislation:**

- **Land Remote Sensing Policy Act of 1992, 15 U.S.C. §§ 5601 - 5672, at Subchapter VI, §§ 5671-5672 - Prohibition Of Commercialization Of Weather Satellites:** *Neither the President nor any other official of the Government shall make any effort to lease, sell, or transfer to the private*

*sector, or commercialize any portion of the weather satellite systems operated by the Department of Commerce or any successor agency.*

- **National Weather Service Organic Act, 15 U.S.C. §313:** *Provides the authority to forecast the weather, issue storm warnings and collect/transmit marine data.*

**Executive Order:**

- **Presidential Decision Directive, NSTC-8, National Space Policy, 1996:** *Defines NOAA's role as having the lead responsibility for managing Federal space-based civil operational Earth observations necessary to meet civil requirements.*
- **Presidential Decision Directive, NSTC-2, Convergence of U.S.-Polar-Orbiting Operational Environmental Satellite Systems, 1994:** *Directs the convergence of the NOAA TIROS and DoD DMSP polar-orbiting programs to reduce the cost of acquiring and operating polar orbiting operational environmental satellites, while continuing to satisfy U.S. operational civil and national security requirements*.

**Interagency or International Agreements:**

- **Basic Agreement Between the National Aeronautics and Space Administration and the U.S. Department of Commerce Concerning Collaborative Programs, 1998:** *Defines principles and guidelines in areas related to environmental satellite programs, specifically including those activities related to the development of space-based capabilities (both the development of new instrumentation and flight opportunities and enhancements to existing systems), and data and information systems, the coordination of research and analysis activities and other areas of collaboration.*
- **Agreement between the United States National Oceanic and Atmospheric Administration and the European Organization for the Exploitation of Meteorological Satellites on Joint Transition Activities Regarding Polar-orbiting Operational Environmental Satellite Systems, Dated June 24, 2003:** *Defines the terms of cooperation between NOAA and EUMETSAT during the transition from the IJPS Agreement to an agreement for a future joint polar system.*

*B.* **Mission Requirement:**

- Provide satellite-based products and services to support user-generated requirements from all four NOAA mission goals.

## 3. LINKS TO THE NOAA STRATEGIC PLAN

A. Goal Outcome: The Satellite Services Program supports the Mission Support outcome, "Ship, aircraft, and satellite programs that ensure continuous observation of critical environmental conditions."

*B.* Goal Performance Objective: The Satellite Services Program supports the Mission Support objective, "Increase quantity, quality, and accuracy of satellite data that are processed and distributed within targeted time."

*C.* Goal Strategies: The Satellite Services Program supports the Mission Support strategy, "Provide timely and effective acquisition and delivery of satellite-derived information that supports requirements from the Mission Goals."

## 4. PROGRAM OUTCOME(S*)*

- Provide a continuous collection of Satellite environmental data products to support the Nation's economy and public wellbeing.

## 5. PROGRAM ROLES AND RESPONSIBILITIES

This program is established and managed with the procedures established in the NOAA Business Operations Manual (BOM). Responsibilities of the Program Manager are described in the BOM. Responsibilities of other major participants are summarized below:

*A.* **Participating Line Office, Staff Office, and Council Responsibilities**:

- ***Office of Satellite Operations (OSO):*** OSO is responsible for the Satellite Operations Control Center (SOCC) at Suitland, MD and Command and Data Acquisition (CDA) facilities at Wallops, VA and Fairbanks, AK. OSO acquires instrument data from a multi-satellite constellation in both geosynchronous and polar orbits. OSO performs satellite command and control functions and monitors the health and safety of the satellites in order to maximize data recovery and satellite longevity. OSO supports the launch, activation, and evaluation of new satellites. OSO additionally performs satellite and ground system anomaly analysis and recovery actions to optimize the delivery of error-free, on-time data to users.
- ***Office of Satellite Data Processing and Distribution (OSDPD):*** OSDPD is responsible for the rapid collection, processing and analysis of data from NOAA polar and geostationary satellites. In addition, OSDPD produces products from data that is collected from selective NASA instruments/sensors and DoD satellites. This environmental satellite data and derived products are used by various entities including NOAA's National Weather Service to produce local forecasts and warnings for the general public. Additional users include local and national emergency managers, international weather centers, and the private sector, such as commercial weather companies.

- ***Office of Research and Applications (ORA):*** ORA is responsible for the applied research necessary to provide increasing accuracy and utility for satellite environmental data products. ORA provides the scientific methodology for on-orbit calibration and validation for operational and experimental satellites. In addition, ORA validates new scientific applied solutions, and ensures that the accuracy of algorithms/products meets specified requirements. ORA provides scientific advice for the design, procurement, and implementation of new sensors, satellites, and systems. These research and development and operational calibration/validation efforts contribute directly to improved forecasts through improved model initialization and the comparison of analyzed satellite data with other information.
- ***NOAA Office of General Counsel (GC)*:** The NOAA GC is responsible for providing legal services necessary to enable the program to discharge its duties. In this regard, NOAA GC provides a variety of specific services on an as-needed basis, including but not limited to: advice on legal issues related to program responsibilities; review and clearance of agreements, testimony, correspondence, and other documents; legal representation; assistance with litigation and requests for testimony or information; and coordination on behalf of the program with the Department of Commerce GC in the areas of contract, grant, intellectual property, labor and employment, appropriations, legislation and regulation, grant, litigation, and telecommunications law.

*B.* **External Agency/Organization Responsibilities (e.g., EPA, Fish and Wildlife Service, state agencies, international partners, private sector organizations):**

- **Agency Partners:** NOAA is partnered with both NASA and DoD in the Satellite Services Program. NOAA and NASA have successfully partnered to leverage resources to procure and launch spacecraft. NOAA provides the data ingest, product production and distribution for data from sensors that reside on selective NASA satellites. The Satellite Services Program operates DoD's Defense Meteorological Satellite Program (DMSP) satellites. The Satellite Services Program also participates in the Cooperative Operational Processing Center (COPC) with the Air Force, Navy and the NOAA National Weather Service. The Satellite Services Program provides expertise, leadership and requirements analysis for the Weather Research and Forecast (WRF) Model, a next-generation mesoscale numerical weather prediction system designed to serve both operational forecasting and atmospheric research needs.
- **International Partners:** NOAA has an agreement with the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT) for participation in the Initial Joint Polar System (IJPS) program. In the IJPS Agreement, NOAA and EUMETSAT agree to procure and operate their Polar-orbiting satellites in a manner beneficial to both parties and the world's meteorological community.

## 6. END USERS OR BENEFICIARIES OF PROGRAM

The Satellite Services Program supplies valuable products and services that are used everyday by NOAA's diverse and varied group of stakeholders. These stakeholders include the general public, other government agencies such as the Department of Homeland Security and the Federal Aviation Administration, industry partners in sectors such as agriculture and academia (including environmental and meteorological institutions around the world). Following are some of the benefits provided to these stakeholders.

**General Public –**

a. Observational data is provided for use in weather forecasts and warnings enabling an informed and prepared public, thus contributing to a reduction in loss of life and property due to weather-related events.

b. Climate monitoring, research and prediction efforts are aided by the data, analysis, and quality assurance from satellite observations.

c. Coastal and marine ecosystems data stewardship and data management services help manage and balance competing uses of resources.

d. Marine navigation products and services are provided to increase safety and productivity of transportation systems. For example, the advanced monitoring and tracking of vessels and cargo result in a reduced number of port developments and operations causing environmental damage.

**Government Agencies –** the program provides NOAA as well as other government agencies valuable data/products and services that support their missions to protect life, property and the environment. For example, the Satellite Services program provides valuable data and products that are used by the Federal Aviation Administration for in-flight weather monitoring.

**Industry Partners –** the program provides data fundamental to the development of long-term climate and weather forecasts which can help farmers determine optimum agricultural practices, including optimum geographic location for certain crop types and plan for application of herbicides and pesticides. In addition, many private sector weather forecasting organizations ingest NOAA data to generate value-added products for their users.

**Academia –** the program supports scientific research that provides the basis for new and improved satellite data products and applications to academic institutions. These efforts include long-term stable, accurate data set generation and analysis in support of improved forecasts and warnings for regional and local meteorological events.